

An Analysis of the Benson Public Library Collection

Contributions by

Jenny L. Adams
Chip Colwell-Chanthaphonh
Michael W. Diehl
Janet L. Griffitts
Patrick Lyons
Jane Silva
Arthur W. Vokes
Jennifer A. Waters



May 2002

300 East University Boulevard, Suite 230, Tucson AZ 85705

TABLE OF CONTENTS

1. INTRODUCTION.....	<i>Chip Colwell-Chanthaphonh</i>
2. BOTANICAL ANALYSIS.....	<i>Michael W. Diehl</i>
3. FAUNAL ANALYSIS.....	<i>Jennifer A. Waters and Janet L. Griffitts</i>
4. GROUNDSTONE ANALYSIS.....	<i>Jenny L. Adams</i>
5. LITHIC ANALYSIS.....	<i>Jane Silva</i>
6. SHELL ANALYSIS.....	<i>Arthur W. Vokes</i>
7. CERAMIC ANALYSIS.....	<i>Patrick Lyons</i>
8. APPENDIX: SHELL ANALYSIS FORMS.....	<i>Arthur W. Vokes</i>

1. AN INTRODUCTION TO THE ANALYSIS

Chip Colwell-Chanthaphonh
Center for Desert Archaeology

In late February 2002, close to one hundred archaeological objects were gingerly placed in several cardboard boxes for the short trip from Benson to Tucson. These artifacts comprised the Benson Public Library Collection, a farrago of archaeological materials, ranging from complete vessels to fragments of shell bracelets. The collection was distributed to six analysts so that they could salvage any valuable information it might contain. This brief report presents the finding of these analyses.

According to a *News-Sun* article, Grace Sharrah donated these artifacts to the Benson Public Library in 1999 (Dabovich 2002). Grace's husband of ten years reportedly inherited the artifacts from his father, George, who collected the artifacts in the Chiricahua Mountains, as well as the Hayden area. Wanting to display the artifacts and at the same time protect them, a small exhibit was constructed at the Benson Public Library. The artifacts were placed in a heavy glass case, with several typed labels taped to the lid that read, "Donated by: John Sharrah," and, "The artifacts in this case were found in the Morenci area in the early 1930s. At that time, there were no laws governing personal collecting of Indian materials. Since the 1940s, it is unlawful to keep antiquities when found for personal use".

Fortuitously, in mid January, Patrick Lyons (and I tagging along) gave a presentation on the archaeology of the San Pedro Valley to the Benson chapter of Rotary International. There we met Kay Whitehead, and she invited us to view the Benson Public Library Collection. Struck by the genuine desire to safeguard and share these artifacts with the community members who use the library, Patrick Lyons and I spoke with Kay and Peggy Scott about collaborating on a more elaborate presentation. We agreed the first step would have to be an analysis of the collection not only to record the information this collection might contain, but also to establish the foundation for a future exhibit. After receiving permission from the Benson Public Library Board, and working with Linda Stacy—who has generously devoted her time and energy to the project—the artifacts were loaned to the Center for Desert Archaeology for two months.

The Center for Desert Archaeology is conducting this analysis (*quid pro quo*) in a partnership with the Benson Public Library to develop an exhibit for the San Pedro Valley community. This work fits well with the Center's mission, which seeks to promote the stewardship of archaeological and historic resources in the greater southwest through active research, preservation, and public education. Although virtually no archaeologists today condone the unscientific collection of archaeological resources, this collection presents a unique opportunity to collaborate with a community-based institution that seeks to preserve and learn about history. When reading this analysis, it is remarkable to see just how little can be said because we simply do not know the context from which these items were culled. It is our hope, then, that our efforts will not be viewed as an affirmation of unrecorded collecting, but as an opportunity to examine how our views and values of these fragile resources have changed since

the time they were amassed in the 1930s. Hence we aim to probe the archaeological past, ourselves today, and the repercussions of our forbearers' actions through the dialogue that this exhibit will foster.

What follows in this report are short analyses written by each expert participating in this project. I have asked each analyst to catalogue the collection, and concisely summarize what could (and could not) be said of the assorted artifacts given their disposition. The reader should keep in mind that although these summaries provide a factual catalogue of the collection, the main contribution of these analyses will be in the development of the forthcoming exhibit.

Dabovich, Chris

2002 Artifact Donation Carries on Memory. *News-Sun*, February 26.

2. BOTANICAL ANALYSIS: NOTES CONCERNING TWO WOODEN OBJECTS FROM THE BENSON COLLECTION

Michael W. Diehl, Ph.D.
Desert Archaeology, Inc.

This note describes two wooden objects and two maize (*Zea mays*) or “corn” cob fragments from the Benson Public Library. These objects were submitted to Desert Archaeology, Inc. for analysis by Chip Colwell-Chanthaphonh (Center for Desert Archaeology) on behalf of the library. Each object is first described, and the lot is discussed at the end of this report.

Object Number 1. Wooden “Pin”

This object is a wooden wand or pin, made of an indeterminate dicot, probably oak (*Quercus* sp.) or mesquite (*Prosopis* sp.). A more secure identification could be made if it were acceptable to damage the artifact by exposing a fresh cross-section of the wood; given the restricted interpretive value of the object (see end discussion), damaging the integrity of the object in this manner seems unwarranted.

The object has a dark patina that is consistent with considerable age. The patina is highly reflective. It may be a commercial stain. The condition of the object is outstanding, and it is not consistent with the condition of an object from an open-air archaeological site, nor from a burial in an open-air site. There are some age-cracks from drying, but they are neither frequent nor extensive, and the physical integrity of the object is not threatened. If it is an archaeological find, then it probably came from a rockshelter or dry cave. There is, however, little wear, no apparent dry rot, and no rodent gnawing, as is prevalent among wooden objects recovered from caves and rockshelters. Its condition is notable in contrast with Object 2, discussed below. Although staining would not rule out a prehistoric origin, its antiquity is in doubt. It is possible that the object has a Historic Period origin.

The object is apparently hand-carved, since there is no evidence of saw marks on either the proximal or distal ends. In general it was made by working down, then polishing, a larger diameter stick. There is a design near the proximal end (defined here as the “wide flat end”) that extends down the length of the shaft variously 3.248 (.002) cm. to 3.165 (.002) cm. The design consists of diamond shapes of approximately equal size, formed by cutting clockwise and counterclockwise helical grooves, descending the shaft. A series of four, irregularly spaced circumferential grooves was applied over the top of the helical grooves. The design gives the appearance of “raised relief” because the design area was not whittled down to the same degree as the rest of the object.

The object is slightly bowed, but measures approximately 27.7 (.02cm) in length. At the distal end the object is elliptical, and a small fragment has broken off some time in the past. The patina or stain covers the broken area, so the damage is not recent. At the distal end the object

measures 1.148 (.002) cm along the short (intact) axis of the ellipse. At the proximal end, the object tapers to a point.

Object Number 2. Worked Wood Fragment

The object is a roughly cylindrical, tapering fragment of wood that appears to have been worked down from a larger diameter piece of wood. Despite the rough condition of the object, it is identifiable as a gymnosperm by the pattern of the wood grain in old exposed radial sections.

The proximal end is defined as the end where the break occurs. The distal end is defined as the end that tapers to a blunt point. The object measures 13.7 (.01cm) in length and 1.50 cm in cross-section at the proximal end. The distal end has a series of rough nicks consistent with coarse shopping or shaving that is often observed on prehistoric objects.

The surface is rough and irregular, and the outer ring of wood has exfoliated in small patches, probably as a result of dry-rot. There is no evidence of staining or patina, and the surface has a dull, worn, appearance. Overall, the condition of this object is consistent with the condition of most worked wooden objects from caves, and contrasts *in extremis* with the condition of Object Number 1.

Objects Number 3 and Number 4. Maize Cob and Maize Cob Fragment

Object 3 is terminal fragment of a 12-row maize (*Zea mays*)cob, measuring 1.94 cm in length and weighing 0.3 grams. Object 4 is an entire, 10-row maize (*Zea mays*) cob, measuring 7.49 cm. in length and weighing 3.2 g. The weight of the latter includes some glue and paper adhering to one side of the cob. Both maize fragments are dry, unburned, and are generally consistent with the condition of maize cobs recovered from prehistoric dry cave and rockshelter sites in the Southwest. They are not consistent with cob fragments recovered from open-air sites.

Significance

None of the artifacts have any compelling scientific value. Object 1 is certainly the most visually attractive object of the group. "Pin" or "wand" is as good a description of the object as any, but it may have been a tool, a gaming piece, a symbol of rank or status, or a common object of personal adornment. In the absence of information about the location where it was collected or the objects found with it, its uses must remain enigmatic.

The remaining objects are clearly from a different source since their condition is markedly different and much more consistent with prehistoric objects from caves or rockshelters. Were these part of a cache of stored maize? Did these come from a residential site or a temporary camp? In the absence of other information such questions may not be answered. The objects have no scientific value.

Faunal specimens from Benson Library collection.

Taxon	Element	Modifications	Comments
Medium artiodactyl	Distal femur	Saw cut	Sheep/goat or pig?
Large mammal	Long bone shaft	Manufactured into artifact	48.8 mm x 6.0 mm
Large mammal	Long bone shaft	Manufactured into artifact	106.0 mm x 14.2 mm; use wear analysis

4. GROUNDSTONE ANALYSIS

Jenny Adams, Ph.D.
Desert Archaeology, Inc.

Artifact Descriptions

Artifact #1 is a stone ring or more commonly called a donut stone. We do not know much about how these items were used. This donut stone was drilled from both sides, which creates a biconical hole. There is no obvious use-wear to help interpret how it was used. If we knew the context from which this piece was recovered, we might be able to infer its function from the accompanying artifacts. In some cases, they have been found with axe manufacturing tools and unfinished axes – perhaps they were somehow related to axe manufacture.

Artifact #2 is a ball. It was ground to make this shape. Balls of this size have been found among the Pueblos, and historically were rolled across wooden covered pits to imitate the sound of thunder during rituals. These are called thunderstones. There is no obvious use-wear to help interpret how Artifact #2 was used. If we knew the context from which it was recovered, we might be able to determine if it had been used in rituals as with the Pueblo example. Otherwise, all we can say is that we do not know how it was used.

Artifact #3 is a mano that had been used in a trough metate. It was carefully manufactured with finger grooves that would have helped the grinder hold the mano when it was covered with flour. The upper surface was carefully shaped to fit comfortably in the grinder's hands. The grinding surface had been re-roughened after it had been worn too smooth to grind efficiently. Was this mano left near the metate with which it had been used? If we knew the recovery context, we might be able to infer where food-grinding activities took place and if they were done by an individual or by more than one grinder.

Artifact #4 is also a mano, but it was used with a different type of metate than Artifact #3. Artifact # 4 was used with a metate that started with a flat surface, but because of the small size of the mano, it became worn with an elliptical depression. These are classified as flat/concave metates. Artifact #4 is a flat/concave mano. Both broad surfaces of the mano were used against the metate – the smoother side was used more than the rougher side. As with Artifact #3, if we knew the recovery context we might be able to understand where and how food-processing activities were carried out.

Artifact #5 is a pestle. It was used with a shallow stone mortar. We know that because of the use-wear on the broader end of the tool. Tools like this have been found in the area around Safford and Point of Pines. This is not a common tool type across the U.S. Southwest and not much is known about the mortars in which they might have been used. If this one had been found with its mortar we would be able to understand a lot more about their use than we do now.

Artifacts #6 - #13 are axe heads. They were hafted with a wooden handle by means of the groove that encircles $\frac{3}{4}$ ths of their circumference. These are called $\frac{3}{4}$ -groove axe heads. This hafting technique was used by Hohokam and Mogollon axe makers. Anasazi axe makers used a groove that completely encircles the head – called full-grooved axe heads. Three of the heads, 6, 8, and 13, were never used and may not have been hafted. Were these heads found together? Caches of unused axes have been found elsewhere in the U.S Southwest and are commonly thought to have been ritually buried. Unused axes have also been found on the floors of structures where axes were manufactured. If only we knew where these came from... The other axes had been lightly to moderately used and there is evidence in their grooves that they were hafted. One axe-head was re-sharpened. If any of these axe heads had been found in Anasazi settlements we might have been able to discuss the possibility of contact between different groups.

Artifacts #14 and 15 are bowls. They were carefully manufactured to create the basin and to shape the sides and bottoms. There is no use-wear to indicate that they had been used as mortars. Artifact #15 may have been an as yet unused mortar; the surface opposite the basin had been secondarily used as a handstone. If it was originally a handstone then the basin may have been made to serve as a small mortar and was never used. At this point, we will never know exactly how it was used. Artifact #14 has dark red pigment in it. Perhaps that is what it was meant to hold. There is no evidence of grinding in the basin, so it does not seem reasonable to assume that it was a mortar used to grind the pigment. Bowls with pigment have been found in ritual contexts. Red pigment is often used in mortuary rituals. Pigment was also used to color pots, baskets, and people's skin. If we were able to determine the recovery contexts of these bowls, we would be able to understand much more about how they were used.

Artifact #16 is a piece of processed red pigment that is the same shade as the red in Artifact #14. This raises a question about the pigment in Artifact #14. Was it a prehistoric deposition? Or, has Artifact #16 rubbed off on the inside of the bowl as they were carried around together?

Artifacts #17 – 24 are natural objects that may have been picked up those who lived prehistorically and taken as personal or ritual possessions or they may have been collected historically. We cannot be sure which the case is because we do not know where they were found.

Artifacts #25 – 28 are flakes that were removed from cores presumably by prehistoric knappers. Because we do not know where they were found we cannot know for sure.

Artifact #29 has not been altered and is not unusual – it probably was not a prehistoric artifact.

Groundstone artifacts

Artifact Number	Artifact Type	Comments
1	donut stone	biconically drilled hole
2	ball	ground to shape
3	mano	used with a trough metate
4	mano	used with a flat/concave metate
5	pestle	used with a stone mortar
6	axe head	$\frac{3}{4}$ groove - unused
7	axe head	$\frac{3}{4}$ groove - lightly used
8	axe head	$\frac{3}{4}$ groove - unused
9	axe head	$\frac{3}{4}$ groove - lightly used
10	axe head	$\frac{3}{4}$ groove - moderately used
11	axe head	$\frac{3}{4}$ groove - secondarily used
12	axe head	$\frac{3}{4}$ groove - re-sharpened
13	axe head	$\frac{3}{4}$ groove - unused
14	bowl	red pigment - 10R4/8
15	bowl	secondary use as a handstone
16	pigment	processed red - 10R4/8
17	tabular material	not modified
18	concretion	not modified
19	crystal	not modified
20	chrysocolla	not modified
21	crystal	not modified
22	crystal	not modified
23	fossil?	not modified
24	pyrite	not modified
25	flake	chalcedony - unused
26	flake	obsidian - unused
27	flake	obsidian - unused
28	flake	obsidian - unused
29	rock	not cultural

5. LITHIC ANALYSIS

Jane Silva
Desert Archaeology, Inc.

This set of stone projectile points and bifaces provides a twofold object lesson in the detriment private, ad hoc collecting poses to archaeological knowledge. First, the lack of contextual information—exactly where the objects were found, the kinds of sites they were on (if any), and the other artifacts they were associated with (if any)—eliminates our ability to relate the points to prehistoric behavior. It also prevents us from making educated guesses about some of the points whose cultural and temporal affiliation cannot be determined from shape alone. The most unfortunate example of this barrier to knowledge is the very large side-notched point made from slate. This is an unusual specimen; points of this size, with this shape, and made from this material are rarely encountered in Arizona. Because we have no provenience information for the artifact, we have no way to determine which group of people made the point, whether it might have had a ceremonial rather than utilitarian function, or even if it is indeed a prehistoric artifact at all, or the work of a modern knapper. Another example of lost research potential is the Empire point glued to the piece of plywood. Empire is a newly recognized point type, and our current knowledge about the geographic distribution of the people who produced it is limited. If this point truly originated in the Morenci region, it would be the eastern-most known occurrence of Empire points yet known. However, because we cannot know for sure where it was found, it must remain tentative evidence for the presence of Empire-producing people in far eastern Arizona.

Second, gluing the points to a presentation board eliminates whatever potential they had for providing scientific data, effectively transforming the artifacts from individual messengers from the past to a single, static piece of modern art (and poorly rendered at that). Some information can be salvaged from poached artifacts themselves, primarily consisting of measurements taken of points of known styles. These metric data can then be compiled with previous measurements of these types to bolster our database and, hopefully, ultimately help us achieve a fuller understanding of the stone technologies and ideas about projectile design that were employed by prehistoric flint knappers. However, affixing artifacts to a piece of plywood prevents us from taking complete sets of measurements, as well as limiting our observations of flaking patterns to the side of the point that happens to be face-up. An additional problem is presented by the large biface that was mounted as the centerpiece to this arrangement. Removing this artifact from the board revealed that it had previously been glued to a piece of cardboard, which raises the question of whether the biface was found in the Morenci area with the rest of these points, or originated in some other region and was acquired from another collector simply to complement the set.

We were fortunate in this case that the Benson Public Library administration was eager to learn as much from the artifacts as possible, and so allowed us to remove them from the board for study. The points in the collection represent a potential timespan of some 4,500 years, from the Chiricahua phase of the Middle Archaic period (3000-1200 B.C.) to the Proto-historic era

immediately preceding the arrival of Spanish Conquistadores in southern Arizona (A.D. 1450-1650). Several examples of common Late Archaic (1200 B.C.-A.D. 150) points are present, including San Pedro and Cienega points. These large dart points contrast with the small arrow points of the Hohokam era (A.D. 650-1450). Several broken points are too fragmentary to be confidently identified; the contextual information that was eliminated by the collector would have made a difference here.

6. THE BENSON LIBRARY SHELL COLLECTION

Arthur W. Vokes
Arizona State Museum

The shell material from the site represented in this collection provides a number of insights into the nature of the settlement. The diversity and complexity suggests the site was a village, or larger, community that was actively involved in a system of exchange that saw material travel over considerable distances. Small communities and settlements that are occupied for short periods of time tend to produce assemblages of ornaments that are largely limited to plain forms of bracelets, and simple styles of beads and pendants (Vokes 1984:540-544). Certainly these are present in the current material, but there are other specimens, including a bracelet decorated with an incised series of nested chevrons, several cut shell pendants and tinklers, and different styles of ring bead-pendants. There is also some evidence for local production of these artifacts in the form of whole valves representing raw material and several specimens representing the remodeling of shell artifact fragments into different styles of ornaments. In order to make these items, the inhabitants were obtaining shell from both the warm waters of the Gulf of California and the colder water off the coastline of the modern state of California. While most of the shell in the collections appears to have come from the Gulf—probably through trade routes in northwestern Mexico—the presence of a large pendant made of black abalone (*Haliotis cracherodii*) indicates they were also involved with groups ultimately trading with the populations of the southern California coastline.

The settlement from which this sample was recovered clearly has a large Classic period component (A.D. 1100 thru 1450). This is indicated by the presence of several forms of ornaments that are associated to some degree with this time period of the Hohokam cultural sequence. The clearest examples of this association are the one shell bead made from the small *Glycymeris* valve and the *Conus* ring bead-pendant. These styles of artifacts are largely limited to this time period (Nelson 1991). Other artifacts that support this assertion include the shell tinklers made from *Conus* valves. While there are a few known examples from sites dating to the preceding Middle and Late Sedentary period (Bradley 1980, Vokes 1986, 1988), the vast majority are associated with the Classic period, particularly with large village settlements that would have served as ritual and administrative centers (Vokes 1995:161, 193-194). The use of incised decoration on the bracelet fragment is also seen as an indication of a Sedentary or Classic period occupation. Previous research has indicated there is a trend of increasing use of incising as a decorative technique over time. Early forms of embellishment of bracelet bands generally involved the carving of the band, with incising gradually replacing carving during the Sedentary period and ending as the dominant style of band decoration during the Classic period (Jernigan 1978:65-67).

Bradley, Bruce A.

1980 *Excavations at Arizona BB:13:74, Santa Cruz Industrial Park, Tucson, Arizona.*
CASA Papers, No. 1. Complete Archaeological Service Associates, Oracle, Arizona.

Jernigan, E. Wesley

1978 *Jewelry of the Prehistoric Southwest*. School of American Research Southwest Indian Arts Series. School of American Research and University of New Mexico Press, Sante Fe and Albuquerque.

Nelson, Richard S.

1991 *Hohokam Marine Shell Exchange and Artifacts*. Arizona State Museum Archaeological Series, No. 179. Arizona State Museum, University of Arizona, Tucson.

Vokes, Arthur W.

1984 The Shell Assemblage of the Salt-Gila Aqueduct Project Sites. In *Hohokam Archaeology along the Salt-Gila Aqueduct Central Arizona Project, Volume VIII: Material Culture*. edited by Lynn S. Teague, and Patricia L. Crown, pp:465-574. Archaeological Series No. 150(8). Cultural Resource Management Division, Arizona State Museum, University of Arizona, Tucson, Arizona.

1986 Tanque Verde Wash Shell Assemblage. In *Archaeological Investigations at the Tanque Verde Wash Site: A Middle Rincon Settlement in the Eastern Tucson Basin*. Mark D. Elson, pp:313-24. Anthropological Papers, No. 7, Institute for American Research, Tucson, Arizona.

1988 Shell Artifacts. In *The 1982-1984 Excavations at Las Colinas: Material Culture*. by David R. Abbott, Kim E. Beckwith, Patricia L. Crown, R. Thomas Euler, David A. Gregory, J. Ronald London, Marilyn B. Saul, Larry A. Schwalbe, Mary Bernard-Shaw, Christine R. Szuter, and Arthur W. Vokes, pp:319-84. Archaeological Series No. 162. Arizona State Museum, University of Arizona, Tucson.

1995 The Shell Assemblage. In *The Roosevelt Community Development Study, Volume I: Stone and Shell Artifacts*. editors Mark D. Elson, and Jeffery J. Clark, pp:151-211. Anthropological Papers No.14. Center for Desert Archaeology, Tucson, Arizona.

7. CERAMIC ANALYSIS

Patrick Lyons, Ph.D.
Center for Desert Archaeology

Introduction

In this report, I provide typological, stylistic, and chronological information, as well as metrical data, for the ceramic portion of the Benson Public Library Collection. In addition, I discuss the condition of a number of the pieces. It is important to emphasize that these vessels and fragments of vessels are significant because they represent evidence of ancient migration of northern peoples to the deserts of central and southern Arizona. It is also necessary to call attention to the fact that a number of specimens exhibit evidence of what appears to be salt efflorescence and exfoliation (flaking and spalling of the surface, due to the natural growth of salt crystals). If this process is not arrested, these pieces will eventually be destroyed. I suggest that Benson Public Library personnel contact Dr. Suzanne Griset at the Arizona State Museum, University of Arizona, for assistance in this matter.

The assemblage consists of eight whole or reconstructed vessels and seven sherds. The following wares and types are represented:

Roosevelt Red Ware (see Colton and Hargrave 1937; Crown 1994)

Pinto Polychrome

Gila Polychrome

Cliff Polychrome (see Wilson 1998a, 1998b; Harlow 1968)

San Carlos Red-on-brown (see Franklin 1980)

San Carlos Red (see Franklin 1980)

Belford Red (see Di Peso 1958)

Salado Red Corrugated (see Colton and Hargrave 1937)

Cibola White Ware (see Colton 1941)

Unknown Plain Ware

Roosevelt Red Ware

The whole vessels include three Roosevelt Red Ware (a.k.a. Salado Polychrome) bowls, typed as Gila Polychrome (two specimens) and Cliff Polychrome (one specimen). Pinto Polychrome, Gila Polychrome, and Cliff Polychrome are also represented by one bowl sherd each. Pinto Polychrome is the earliest of this group of types, and Cliff Polychrome is the latest.

The Gila Polychrome bowl bearing interior decoration exhibits a style (Roosevelt stage 3; see Crown 1994) associated with the middle to the late end of the temporal range of this type's production. This identification is based on the presence of such key diagnostic motifs as negative diamonds and squares, a general lack of hatching, and the external elaboration of motifs (with scallops). The design layout is classified as Awat'ovi style, substyle E (Lyons 2001), another indicator that this is not an early specimen of Gila Polychrome. A banding line is present (at the rim), as is a line-break. The vessel form is hemispherical, consistent with other temporal indicators -- early Gila Polychrome bowls tend to be incurved. This vessel displays usewear on its interior, at the rim, and in the framing line zone. Its exterior is well polished. It appears to exhibit some salt efflorescence.

The Gila Polychrome bowl bearing exterior decoration also exhibits a Roosevelt stage 3 design. The design layout is an undivided band arrangement and the vessel form is slightly incurved. Although incurved bowls are associated with the early end of the range of Roosevelt Red Ware production, bowls displaying exterior decoration and lacking interior decoration appear to be a late phenomenon. This vessel displays rim ticking in the form of four equidistant groups of straight lines painted perpendicular to the rim. Two groups of ticks include ten lines, one includes eight lines, and the fourth is comprised by six to eight lines (the rim is chipped in this location). The vessel's exterior is well polished and the vessel is well-formed. Usewear is apparent on the vessel exterior, at the rim. Salt efflorescence and exfoliation are apparent on the exterior surface as well.

The Cliff Polychrome bowl was typed as such based on two traits: the vessel's form (semi-flared hemispherical bowl), and the presence of a secondary banded design field located above the framing line of the main vessel design field. Cliff Polychrome is an old type name (Harlow 1968; Wilson 1998a, 1998b) that has recently been revived, since it refers to a late form of Roosevelt Red Ware that is easily identifiable, based on shape and decoration.

The main design field is located in the bottom and on the sides of the bowl. A free-floating banding line is lacking, and the secondary, upper design field covers the everted portion of the rim. The main design could be classified as Pinedale stage 2 (Crown 1994) and its layout can be categorized as offset quartered, or Jeddito style, substyle C (Lyons 2001). The vessel is very poorly formed and smoothed, and the execution of the painted design can be characterized as "sloppy." These observations combined with the fact that the banding line is missing from the layout (an "error") suggest the vessel was made by a novice, perhaps a child (see Crown 1999). An area of severe usewear (abrasion) was noted on the exterior of the vessel near the point where the wall begins to rise from the base.

The Cliff Polychrome rim sherd displays a classic biconical drillhole (mendhole?). The fact that the hole is biconical or hourglass-shaped, as opposed to cylindrical, proves that it must have been added after the pot was fired. This may indicate that the vessel from which it was

derived developed a crack that was healed by drilling holes on either side, lacing some fiber through the holes, and tying them tightly. Alternatively, the hole might have been drilled in order to allow the sherd to be suspended for some purpose, perhaps as a pendant.

Recent research strongly suggests that Roosevelt Red Ware was invented and spread throughout the southwest by immigrants from northern Arizona—people native to the Kayenta and Tusayan regions (Crown 1994; Lyons 2001).

San Carlos Red-on-brown and San Carlos Red

The San Carlos Red-on-brown bowl displays two bands of decoration on its exterior, is characterized by a deep hemispherical form, and exhibits the interior smudging associated with this type. It is important to note that this vessel has a painted rim -- unusual for this type, and that it exhibits extremely severe salt efflorescence and exfoliation. Fortunately, the majority of the visible damage is limited to the exterior base of the vessel. Moderate usewear on the vessel interior was noted. Light usewear was also observed on the rim. It was difficult, given the aforementioned efflorescence problem, to observe temper particles in the paste of this vessel, but it appears that crushed phyllite is present, suggesting the bowl was made in the San Pedro Valley, near the San Pedro-Aravaipa Creek confluence.

The San Carlos Red sherd is a bowl rim fragment that has been chipped bifacially and ground into the form of a disk. It may have been in the process of becoming a spindle whorl. This specimen also appears to contain crushed phyllite temper consistent with production in the San Pedro Valley near the confluence with Aravaipa Creek.

San Carlos Red-on-brown is an interesting pottery type that is currently poorly understood in terms of its typological relationships, geographical and cultural historical origin(s), areal distribution, dating, production locations, and technological and stylistic variability. Type descriptions for San Carlos Red-on-brown make reference to interior smudging and the style of painted decoration that appears on vessel exteriors. This design style is the same as that displayed by Tanque Verde Red-on-brown (made in the Tucson Basin) and Casa Grande Red-on-buff (made in the Phoenix Basin; see Haury 1945:55-63; Kelly et al 1978:59). Most descriptions of this type also mention its relatively thin walls (4-6.5 mm thick) and report lustrous polish on vessel interiors and exteriors.

San Carlos Red-on-brown is often considered, as it is here, a type without a ware, or a series. Wood (1987:41-42) placed it under his Salt-Gila Buffware rubric along with the Hohokam buff ware types of the Phoenix Basin, and Foster (1994:139-140) talks of a "San Carlos Series" that includes San Carlos Red-on-brown and San Carlos Red. Typological difficulties and differences of opinion seem to be related to the question of whether San Carlos Red-on-brown should be considered part of the Hohokam tradition or the Mogollon tradition. Some researchers conceive of the type as a potential "hybrid" of these two traditions (see, e.g., Kelly et al. 1978:59).

The areas that have yielded the highest percentages of San Carlos Red-on-brown include the San Carlos-Bylas-Safford area and the Lower San Pedro Valley. The type has also been recovered from sites in the Globe-Miami area, the Phoenix Basin, the Tucson Basin, the Dripping Springs Valley, and the Point of Pines region. Variability in the tempers seen across these regions suggest at least four production centers: the Aravaipa-San Pedro confluence, the San Carlos-Bylas-Safford area, the Tonto Basin, and the Globe-Miami area.

San Carlos Red is problematic in the same ways as San Carlos Red-on-brown. Type descriptions and discussions of the type emphasize as distinctive the following characteristics: thin walls (in the range of 3-5 mm for bowls), highly polished interior and exterior surfaces, interior smudging, and variable exterior surface color (ranging from maroon to tan to black fireclouds on the same vessel). As noted above, the presence of crushed phyllite temper is suggestive of production near the San Pedro-Aravaipa confluence.

Belford Red

The Belford Red bowl is semi-flared and hemispherical in shape and is slipped red inside and out (the interior is not smudged). The presence of usewear and/or salt efflorescence and exfoliation are impossible to determine due to the presence of a thick coating of unknown origin.

Belford Red was named for the Belford Ranch in the San Pedro Valley, upon which the Reeve Ruin is located (Di Peso 1958). The type has since been found in west-central New Mexico, southwestern New Mexico, and the Phoenix area. It is known by different names in different places (e.g., Cliff Red, Phoenix Red; see Wilson 1998a, 1998b), and represents the utility ware (cooking and storage) pottery made by people (northern immigrants) who made and used Roosevelt Red Ware decorated pottery.

Salado Red Corrugated

The gourd-shaped Salado Red Corrugated jar is very well-made. It exhibits moderate usewear on its exterior base and very light usewear on its rim. Most Salado Red Corrugated pottery was made in Lake Roosevelt area by immigrants from northern Arizona (see e.g., Stark et al. 1995).

Unknown Plain Ware

Two vessels and one sherd of unknown plain ware are present in the assemblage. The scoop was made originally in the form of a scoop -- it is not bowl or jar sherd ground to its present shape. However, a portion of the rim of this vessel was broken off at some point, and the vessel was ground in this area, in order to prevent more chipping and to create a smoother (less jagged) gripping surface.

The pinch-pot is unfired -- an extremely rare and significant find, as unfired pottery usually does not travel far from where it is produced. The discovery of unfired pottery in a site is a strong indicator that pottery was produced there. This particular vessel is not particularly well-formed, perhaps having been made by a novice. Amazingly, extremely well-preserved fingerprints and fingernail marks left by the potter are present. The rim of this vessel has apparently crumbled away, limiting what can be said regarding its form, but it has a flat base and a vessel profile that approaches that of a hemisphere.

The plain ware jar sherd in the collection displays a biconical drillhole like that discussed above. This sherd also exhibits small interior indentations that may represent anvil marks, suggesting that this vessel was thinned by paddle-and-anvil, as opposed to scraping. Paddle-and-anvil thinning is associated with the Hohokam and not with northern groups.

Cibola White Ware

Two sherds, one bowl fragment and one jar fragment, of Cibola White Ware were noted. These were identified based on the presence of both sherd temper and mineral paint. Both sherds are quite small and do not exhibit any motifs diagnostic of a particular Cibola White Ware type.

Most Cibola White Ware was made along the Mogollon rim in east-central Arizona and west-central New Mexico. Some late Cibola White Ware was made by immigrants from northern Arizona.

Summary And Conclusions

Fifteen ceramic objects, eight vessels and seven sherds, from the Benson Public Library Collection were subjected to typological, stylistic, and metrical analysis. Information was also compiled regarding the origins and dating of the specimens analyzed.

The vessels examined are representative of types associated with the Salado phenomenon, also conceived of as the widespread movement of people from the Kayenta and Tusayan regions of northern Arizona to central and southern Arizona, as well as parts of New Mexico and northern Mexico, circa A.D. 1250-1500. All could be subjected to more in-depth study in order to determine precisely where they were made, but some appear to have been produced in the San Pedro Valley. Many exhibit evidence of salt efflorescence and exfoliation and it is recommended that steps be taken to prevent further damage to these significant artifacts.

Colton, Harold S.

1941 *Winona and Ridge Ruin, Part II: Notes on the Technology and Taxonomy of the Pottery*. Museum of Northern Arizona Bulletin No. 19. Northern Arizona Society of Science and Art, Flagstaff.

Colton, Harold S., and Lyndon L. Hargrave

1937 *Handbook of Northern Arizona Pottery Wares*. Museum of Northern Arizona Bulletin No. 11. Northern Arizona Society of Science and Art, Flagstaff.

Crown, Patricia L.

1994 *Ceramics and Ideology: Salado Polychrome Pottery*. University of New Mexico Press, Albuquerque.

1999 Socialization in American Southwest Pottery Decoration. In *Pottery and People: A Dynamic Interaction*, edited by James M. Skibo, and Gary M. Feinman. pp. 25-43. University of Utah Press, Salt Lake City.

Di Peso, Charles C.

1958 *The Reeve Ruin of Southeastern Arizona: A Study of a Prehistoric Western Pueblo Migration into the Middle San Pedro Valley*. The Amerind Foundation No. 8. Dagoon.

Foster, Michael S.

1994 Intrusive Ceramics. In *The Pueblo Grande Project: Material Culture*, edited by Michael S. Foster, pp. . Soil Systems Publications in Archaeology No. 20(4). Soil Systems, Inc., Phoenix.

Franklin, Hayward Hoskins

1980 *Excavations at Second Canyon Ruin, San Pedro Valley, Arizona*. Arizona State Museum Contribution to Highway Salvage Archaeology No. 60. Arizona State Museum, University of Arizona, Tucson.

Harlow, Francis H.

1968 Fourteenth Century Painted Pottery from Near Cliff, New Mexico. MS on file, Office of Archaeological Studies, Museum of New Mexico, Santa Fe.

Haury, Emil W.

1945 *The Excavation of Los Muertos and Neighboring Ruins in the Salt River Valley, Southern Arizona*. Papers of the Peabody Museum of American Archaeology and Ethnology Volume 24(1). Harvard University, Cambridge, MA.

Kelly, Isabel T., James E. Officer, and Emil W. Haury

1978 *The Hodges Ruin: A Hohokam Community in the Tucson Basin*. Anthropological Papers of the University of Arizona No. 30. University of Arizona Press, Tucson.

Lyons, Patrick D.

2001 Winslow Orange Ware and the Ancestral Hopi Migration Horizon. PhD dissertation, Department of Anthropology, University of Arizona, Tucson. UMI Dissertation Services, Ann Arbor.

Stark, Miriam T., Jeffery J. Clark, and Mark D. Elson

1995 Causes and Consequences of Migration in the 13th Century Tonto Basin. *Journal of*

Anthropological Archaeology 14:212-246.

Wilson, C. Dean

1998a Ormand Ceramic Analysis Part II: Ceramic Trends from the Ormand Village. In *The Ormand Village: Final Report on the 1965-1966 Excavation*, by Laurel T. Wallace, pp. 253-285. Office of Archaeological Studies Archaeology Notes 229. Museum of New Mexico, Santa Fe.

1998b Ormand Ceramic Analysis Part I: Methodology and Categories. In *The Ormand Village: Final Report on the 1965-1966 Excavation*, by Laurel T. Wallace, pp. 195-251. Office of Archaeological Studies Archaeology Notes 229. Museum of New Mexico, Santa Fe.

Wood, J. Scott

1987 *Checklist of Pottery Types for the Tonto National Forest: An Introduction to the Archaeological Ceramics of Central Arizona*. The Arizona Archaeologist No. 21. Arizona Archaeological Society, Phoenix.